

## **DESCRIPTION**

### **1 ) TITLE :**

The title of this invention is : **The telephone plug and jack with transmission various signals .**

### **2 ) THE ART FIELD :**

This invention is a electric product , which involves the telephone plug , the telephone jack , and the correspondence connecting cable . This invention is belong to telecommunication field .

### **3 ) BACKGROUND OF THE INVENTION :**

Since the 1876 telephone invents , the connection wire with all telephone device and the telephone networking have been invented at same time . During the hundred years , the function of communication networking is using chiefly for the telephone business . Although , due to the development of the telephone technology , the function of the telephone machine and the telephone networking have been improved and advanced , but the telephone plug and jack with connecting twisted – pair – cable , which is using up to now , is still using the old product , which was designed about fifty years ago .

During the recent fifty years , due to the invention of the television and the personal computer , the various plugs ( and jacks ) with new function and new shape has been invented , for example , the plug with the shielded coaxial cable is used for television and the plugs with correspondence connection cable is used for computer , but these only have been used for a shout - distance and for the different use .

The similar plug ( or jack ) with correspondence connection cable have never be used by telephone industry as input - terminal device ( client access point ) of local telephone networking , never be used as the telephone plug and jack in the local telephone networking .

#### **4 ) THE INTENTION OF INVENTION :**

Because of the telephone networking , which is best complete and most perfect , have two strong point and advantages as follows :

1 ) Complete : The telephone networking is covered the all region of whole world . It means , under the connection of telephone networking , it can be transmit signal goes to the super - long distance , until to all towns , to all nations in the worldwide .

2 ) Universality : Because of the telephone networking is widely available and extended to the each family , each room and each office in all countries . Therefore , the telephone signal can also transmit to all houses , all offices , to anywhere , anyplace in the whole world , it is the most perfect local network .

Because the public telephone exchanges network , which had been management and develop more than 100 years , has become already on a vast scope , it's complete and universality of telecommunication transmission are that the other any telecommunication industry and information industry cannot compare to it . But , since the telephone invents , the design of it's usage is stayed around to use for audio signal . Therefore , the telephone plug , jack with it's connecting cable are still designed for transmission of audio signal only , this is the telephone plug and jack with the twisted – pair cable at current use .

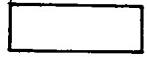
At last twenty years , because of the computer and the internet technology have been development , the customer increases needs to transmit for the video signal and the super – speed data communication , but the telephone industry cannot provide such technique and business .

With the business of wireless phone , cable television and internet network are development very quickly in the last years , although there have got the advantage high – technology support , but it's covered

region and universal rate are cannot catch up with the local telephone network , therefore , along with future technical development of telecommunication , it is very necessary that to exert it's two strong point of telephone network said above connects with the modernization new transmission technology of telecommunication , to improve various functions of input and synchronous transmission for various video signal and digital signal with super – long distance and superhighspeed . The telephone function , which is based on the transmission of audio signal only , increase to input and transmit for television signal , video signal and digital signal ; which is based on the transmission of telecommunication signal systems , increase to input and transmit for information signal systems , finally , the local telephone network , which not only can transmits audio signal , but also transmits the television signal , video signal , and other various signals with digital and images ( multimedia ) . The intention of this invention is design a new improved telephone plug and new jack with new connecting cable for using to future local telephone networking , make telephone network can entered to synchronous transmission the various big capacity signal with superhighspeed . And it also will be applied to development for the information superhighway .

## **5 ) SUMMARY OF THE INVENTION :**

For the sake of meet the future technical development in telephone networking with transmission for various analogue signals and digital signals , the telephone plug ( and jack ) with twisted – pair cable

is cannot meet our demand . We have to need to usage the other kinds of connecting cable and change shape of plug and jack , or to add more wire numbers with various cables . So the telephone plug and jack of the original rectangle shape have need to change to the any other shape , or circle , or  shape , or other various difference shapes ; the connecting cable , which is connected with the plugs or the jacks , will be consisted of the twisted – pair cable , shielded coaxial cable , fibre – optic cable and any high – capacity cable .

For example , the original telephone plug / ( and jack ) , which is using up to now , is a rectangle , the connecting line's number of interface is two lines or four lines only , it's connecting cable is twisted – pair cable .

The new improved telephone plug / ( and jack ) with connecting cable will be :

The shape of the plug / ( or jack ) is new shaped : it can be a circle shaped , or  shaped , or  shaped ,  shaped , or other any shaped .

The line's number of interconnecting with new telephone plug / ( or jack ) are 8 lines , 12 lines , and until to N lines (  $N = 1, 2, 3, 4, 5, \dots 99 \dots n \dots$  ) .

It's connecting cable will be consisted of the twisted - pair cable , the shielded coaxial cable , the fibre - optic cable , and the any high - capacity cable . It can be a kind of any cable , ( such as the shielded coaxial cable only , or the fibre - optic cable only ) ; Or it also can be a mixed cable , which is consisted of any two kinds ( such as mixed of twisted - pair cable with the shielded coaxial cable ) Or any three kinds ( such as mixed of twisted - pair cable with the shielded coaxial cable and the fibre - optic cable ) , or any four kinds , . . . .

The beneficial result of this invention is : In time wired the new connecting cable and installed the new telephone plugs and jacks as the client input - terminal in the local telephone networking , because of it is broadband input , it's function with communication ability will be increase greatly , which is input and transmit not only the audio signal , it will be input and transmit the television signal , video signal , and the signals with digital and images ( multimedia ) also ; which is input and transmit not only the telecommunication signals and analogue signal , it will be input and transmit the information signals and the signals with digital and images ( multimedia ) also , The various signals and information will be transmitted with superhighspeed and synchronous ( such as Broadband input or B - ISDN ) . At this time , we will call this telephone network " The multi - functional telecommunications network or the information superhighway " .

## **6 ) BRIEF DESCRIPTION ON THE DRAWINGS :**

Fig . 1 is the various different connecting cable or wires . In this figure includes : the insulated copper wire (1) , the twisted cable ( two insulated coppers wire twisted ) (2) , the twisted – pair cable (3) , the shielded coaxial cable (4) , the pair – shielded coaxial cable (5) , and the fibre – optic cable (6) .

Fig . 2 is the original telephone plug , jack and the connecting cable ( 4 lines ) of local telephone networking , which is using up to now , it's connecting cable consists of the twisted – pair cable . In this figure includes : the plug is viewing from top to down (7) , the jack is viewing from front (8) , the plug is viewing from left to right (9) , the plug is viewing from bottom to up (10) , and the 4 – line connecting cable consists of the twisted – pair cable (11) .

Fig . 3 is the new improved telephone plug , jack and the connecting cable ( 8 lines ) of local telephone networking , which will be use for telephone and television , it's connecting cable consists of the twisted – pair cable and the pair shielded coaxial cable . In this figure includes : the plug is viewing from top to down (7) , the jack is viewing from front (8) , the plug is viewing from left to right (9) , the plug is viewing from bottom to up (10) , and the 8 – line connecting cable consists of the twisted – pair cable and the pair shielded coaxial cable (11) .

Fig . 4 is the new improved telephone plug , jack and the connecting cable ( 8 lines ) of local telephone networking , which will be use for telephone and television , but the shape of plug / ( and jack ) will be changed to the circle shaped , it's connecting cable consists of the twisted – pair cable and the pair shielded coaxial cable . In this figure includes : the plug is viewing by elevation (12) , the jack is viewing by elevation (13) , make the A – A section of plug (12) , which is viewing by section (14) , make the B – B section of jack (13) , which is viewing by section (15) , and the 8 – line connecting cable consists of the twisted – pair cable and the pair shielded coaxial cable (16) , the upper 4 points are connecting with the twisted – pair cable , and the lower a pair of circle are connecting with the pair – shielded coaxial cable .

Fig . 5 is the new improved telephone plug , jack and the connecting cable ( 12 lines ) of local telephone networking , which will be use for telephone , television and computer , it's connecting cable consists of the twisted – pair cable , the pair shielded coaxial cable and the twisted – pair cable . In this figure includes : the plug is viewing from top to down (7) , the jack is viewing from front (8) , the plug is viewing from left to right (9) , the plug is viewing from bottom to up (10) , and the 12 – line connecting cable consists of the twisted – pair cable , the pair shielded coaxial cable and the another twisted – pair cable (11) .

Fig . 6 is the new improved telephone plug , jack and the connecting cable ( 12 lines ) of local telephone networking , which will be use for telephone , television and computer , it's connecting cable consists of the twisted – pair cable , the pair shielded coaxial cable and the fibre – optic cable . In this figure includes : the plug is viewing by elevation (12) , the jack is viewing from front (13) , make the A – A section of plug (12) , which is viewing by section (14) , and the 12 – line connecting cable consists of the twisted – pair cable , the pair shielded coaxial cable and the fibre – optic cable (16) .

Fig . 7 is that : if cut the new improved telephone plug , jack and the connecting mixed cable ( See Fig . 6 ) into the three separate parts , the part of left is connecting with the twisted – pair cable , like drawing in Fig . 2 , and the other two separate part is connecting with the pair shielded coaxial cable ( or the fibre – optic cable ) , like drawing in this Fig . 7 . So , the Fig . 7 is the new improved telephone plug , jack and the connecting cable ( 4 lines ) of local telephone networking , which will be use for telephone , television , computer , it's connecting cable is the pair shielded coaxial cable only ( or the fibre – optic cable only ) . In this figure includes : the plug is viewing by elevation (12) , the jack is viewing from front (13) , make the A – A section of plug (12) , which is viewing by section (14) , and the 4 – line connecting cable is the pair shielded coaxial cable (16) only ( or the fibre – optic cable only ) .

Fig . 8 is the new improved telephone plugs with the new correspondence connecting cable , which will be use as the interconnecting cable with the device and the local telephone network . It's construction is ( plug – connecting cable – plug ) .

## **7 ) DETAILED DESCRIPTION OF THE INVENTION :**

For example 1 : Turning generally to Fig . 3 : This invention “ The telephone plug and jack with transmission various signals ” , which involves the telephone plug (7)(9)(10) , telephone jack (8) , and it's connecting cable (11) , it will be use for telephone and television , The connecting cable (11) consists of the twisted – pair cable ( 4 lines ) and the pair shielded coaxial cable ( 4 lines ) , it's construction is the ( jack – connecting cable ) / or ( plug – connecting cable ) .

First , the body of telephone plug and jack are made up of hard plastic , it is  shaped [ see views ( 7 ) ( 9 ) ( 10 ) ] , and the correspondence jack is the view ( 8 ) , the plug and jack are a complete set of equipment , which is to be used for insert and connection . The view ( 10 ) is the plan of plug , there have 8 copper lines on the bottom of the plug , which are using as connecting point of interface , and connected with connecting cable (11) . The short lines are interconnecting with the twisted – pair cable by weld , when insert the plug in jack , the copper lines of plug are connects with the copper lines of jack , it's function is using to input and transmit the audio signal , which is like as the telephone signal current using . The

long lines are interconnecting with a pair shielded coaxial cable by weld , when insert the plug in jack , the copper lines of plug are connects with the copper lines of jack , it's function is using to input and transmit the video signal , which is like as the cable – television signal current using . The correspondence connecting cable (11) consists of the twisted – pair cable and a pair shielded coaxial cable , The outside have two broken lines , which is covering with insulated plastic .

For example 2 : Turning generally to Fig . 6 : This invention “ The telephone plug and jack with transmission various signals ” , which involves the telephone plug (12)(14) , the telephone jack (13) and it's connecting cable (16) , it will be use for telephone , television and computer . The connecting cable (16) consists of the twisted – pair cable ( 4 lines ) , a pair shielded coaxial cable ( 4 lines ) and the 4 fibre – optic cable ( 4 lines ) , it's construction is the ( jack – connecting cable ) / or ( plug – connecting cable ) .

The body of telephone plug and jack are made up of hard plastic , it is [ see views ( 12 )( 14 ) ] , and the correspondence jack is the view ( 13 ) , the plug and jack are a complete set of equipment , which is to be used for insert and connection . The view ( 14 ) is the section of plug by large , there have 12 copper lines on the bottom of the plug , which are using as connecting point of interface , and connected with connecting cable (16) . The left 4 lines are interconnecting with the twisted – pair cable by

weld , when insert the plug in jack , the copper lines of plug are connects with the copper lines of jack , it's function is using to input and transmit the audio signal , which is like as the telephone signal current using . The middle two circle are interconnecting with a pair shielded coaxial cable by weld , when insert the plug in jack , the copper lines of plug are connects with the copper lines of jack , it's function is using to input and transmit the video signal , which is like as the cable - television signal current using . The right 4 lines are interconnecting with 4 fibre - optic cable ( or other any high - capacity cable ) , when insert the plug in jack , the copper lines of plug are connects with the copper lines of jack , it's function is using to input and transmit the computer signal with digital and images ( multimedia ) , it is also to input and transmit the various signals of information with great quantity and superhighspeed . The correspondence connecting cable (16) consists of the twisted - pair cable , a pair shielded coaxial cable , and 4 fibre - optic cable , the outside have two broken lines , which is covering with insulated plastic .

The new improved telephone jack (13) is installed by telephone company on the wall of the each house , each room and each office , to instead of the old telephone jack , and it's connecting cable (16) is connected to the in - terminal of the local telephone network , this device is using as the client input terminal ( access - point ) of the local telephone network , it will be input and transmission with various signals at same time , such as audio signal , television signal , video signal , multimedia signal , the various analogue signals and digital

signals .

Then , installed the new improved telephone jack (13) in the device of the telephone machine , or television , or computer , to instead of the old telephone jack , but the correspondence connecting cable of telephone plugs (12) , which is inserted in this jack (13) , is connecting with client input terminal of local telephone networking finally .

For example 3 : Turning generally to Fig . 8 : This is the plugs and the connecting cable , which consists of the twisted – pair cable ( 4 lines ) and the pair shielded coaxial cable ( 4 lines ) . It's construction is the ( plug – connecting cable – plug ) , the one terminal of the connecting cable is connected with one new telephone plug and another terminal is connected with another plug , it is using as a connecting cable with device and local telephone networking , one plug is connecting finally into the device , such as the telephone machine , or the television , or the computer , and another plug is connecting finally into the client input terminal of local telephone networking .